



UNITED STATES DEPARTMENT OF COMMERCE
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SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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ROBERT C. COLWELL
TOWNSEND AND TOWNSEND
STEUART ST. TOWER, ONE MARKET PLAZA
SAN FRANCISCO, CA 94105

EXAMINER	
BOWLER, C. R.	
ART UNIT	PAPER NUMBER
264	2

DATE MAILED: 12/23/87

This is a communication from the examiner in charge of your application.

COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input checked="" type="checkbox"/> Notice re Patent Drawing, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449 | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474 | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-12 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-12 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☒ This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.
8. ☐ Allowable subject matter having been indicated, formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. These drawings are ☐ acceptable; ☐ not acceptable (see explanation).
10. ☐ The ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved. ☐ disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections **MUST** be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.
12. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received
☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

Art Unit 264

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 does not make clear how the position sensing means are coupled to the gloves means. Also, it is not clear whether the interface means directly couples the glove means to the computer or to the display means in response to finger flexure and position of the hand. The term "adapted", as found in claims 1 and 8, does not particularly point out and distinctly claim the invention, In re Hutchison 69 PQ138. Claim 2 does not make clear the proximity at which the signal receiving means are disposed about the display. Claim 6 does not make clear which plurality is being referred to.

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Art Unit 264

Claims 1-3, and 10-12 are rejected under 35 U.S.C. 103 as being unpatentable over Grimes in view of King et al.

Grimes discloses a data entry device interfaced with a computer comprising: display means, for displaying objects on a screen; glove means, to be worn by a user wherein data is input to the computer in response to the users gestures; flexure sensors, for sensing the user's gestures; and cable, for connecting the sensors to an interface device on the computer.

King et al., disclose a cursor control system wherein the controller is affixed to the user's body. The cursor controller transmits signals to receiving means in close proximity to a display device and interfaced to a computer. The controller has plural transmitters realized by optical transmission means.

Grimes fails to show cursor position controlling means wherein the position of the cursor corresponds to movement of a portion of a human body outfitted with transmitting means that may be sensed by receiving means proximate a display device. King et al., show such a method of cursor control to have been known in the art. Therefore, it would have been obvious to incorporate the cursor controlling means disclosed by King et al., with the data generating gloves disclosed by Grimes such that the two inputs are interfaced to a computer for processing and display.

Claims 4-7 and 9 are rejected under 35 U.S.C. 103 as being unpatentable over Grimes in view of King et

al., as applied to claims 1 and 2 above, and further in view of Davison and Herrington et al.

Davison discloses an apparatus for controlling a cursor on a computer display wherein a headset is worn by a computer operator, the headset being comprised of three non-linearly oriented sensors for detecting an ultrasonic signal generated by a transmitter in close proximity to a display device that determine the position of the cursor.

Herrington et al., disclose a cursor position control system in which a handheld signal generating device transmits acoustic signals detected by a plurality of receivers in close proximity to a display device that determine the position of the cursor.

Grimes and King et al. do not show means for controlling the position of a cursor wherein an ultrasonic signal is detected by three non-linear receivers means. In light of the teachings of Herrington et al., who show an audio signal transmitted by an input device and received by plural receiving means in close proximity to a video display it would have been obvious to reverse the receiver and transmitter disclosed by Davison and use such an arrangement with the teachings of Grimes and King et al.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

These references further establish the level of ordinary skill in the art at the time of filing.

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Heynau et al., disclose a remote control selection device.

Bolkow et al., disclose a method for determining the difference between the transit times of pulse signals.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roland Bowler whose telephone number is (703) 557-7197.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 557-3321.



R. BOWLER:flj

703-557-7197

11-18-87

12/11/87



MARSHALL M. CURTIS
PRIMARY EXAMINER
GROUP 264